

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-9 are pending in the present application. No claims are amended, added, or canceled by the present response.

In the outstanding Office Action, Claims 1-3 and 5-9 were rejected under 35 U.S.C. § 102(b) as anticipated by Itsumi et al. (U.S. Patent No. 5,887,140, herein "Itsumi"); Claim 8 was rejected under 35 U.S.C. § 102(e) as anticipated by Brooks (U.S. Patent No. 6,898,299); and Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Itsumi.

The outstanding rejections on the merits of the claims are traversed for the following reasons.

Briefly recapitulating, independent Claim 1 is directed to a personal identification system that includes, *inter alia*, a first electrode and a second electrode. The first electrode is disposed in a first skin area of a person to be authenticated and the second electrode is disposed in a second skin area apart from the first skin area. The contact surface between the second electrode and the second skin area has a predetermined area such that a resistance of the epidermis in the second skin area becomes substantially zero when an electric potential is generated between the first electrode and the second electrode. Independent Claim 7 includes features similar to Claim 1.

In a non-limiting example, Figure 2 shows the first electrode 4 and the second electrode 3.

As explained in the specification at page 14, second full paragraph, when the second electrode 3 is large, the contact between the second electrode 3 and the epidermis becomes large and then the skin area in which the current flows below the second electrode 3 becomes large and "the resistance of the skin area becomes small." Thus, a resistance measurement at

the first electrode is not affected by a resistance at the second electrode as the resistance at the second electrode is substantially zero.

Turning to the applied art, Itsumi shows in Figure 2B a plurality of identical electrodes 142 connected to a switching circuit 145 and used to determine resistances between any two electrodes 142, as indicated by resistances R1 to RN in Figure 3. Itsumi is silent about having one electrode configured to have a resistance between that electrode and the skin substantially zero, as required by Claims 1 and 7.

In the Response to Arguments section on page 2, the outstanding Office Action considers that Figure 4 of Itsumi shows that a resistance becomes substantially zero at the first joint when a protruding portion of the skin entering between two electrodes increases.

Applicants note that Claim 1 recites that the resistance **at the contact between a second electrode and a skin** becomes substantially zero and not a resistance **between two electrodes** as disclosed by Itsumi at column 6, lines 56-59. In addition, Applicants note that Figure 4 of Itsumi does not show a scale for the voltage, and thus, it appears to be speculation whether a value of the voltage (or resistance) at the first joint is substantially zero unless a scale is shown.

Accordingly, Applicants respectfully submit that independent Claims 1 and 7 and each of the claims dependent therefrom patentably distinguish over Itsumi.

Independent Claim 8 is similar to independent Claim 1 but recites that the second electrode has a sufficiently larger area than the first electrode. The outstanding Office Action relying on Brooks, considers that Figure 9 of this reference shows one large electrode and at least one small electrode. While Figure 9 of Brooks indeed shows two electrodes having different sizes, Brooks does not teach or suggest whether these electrodes are used to **generate a current** or to **measure a voltage** as discussed next.

More specifically, the principle of operating in Brooks is shown in Figure 3 in which a current generator 12 inputs a current between two points 14 and 16 on a hand of a user. A voltage detector 28 collects various voltages A-E between various points, different from points 14 and 16. Accordingly, some of the four points 14, 16, 18, and 20 shown in Figure 3 of Brooks, which appear to correspond to the four electrodes shown in Figure 9, are connected to a current generator and the others are connected to a voltage detector. However, Brooks is silent about which two electrodes are connected to the current generator and which two electrodes are connected to the voltage detector in Figure 9. Thus, it is impossible to determine whether the large electrode in Figure 9 is connected to the voltage detector, as required by Claim 9.

Accordingly, Applicants respectfully submit that Brooks does not teach or suggest that a second electrode has a sufficiently larger area than the first electrode and a measuring unit that measures a resistance distribution between the first electrode and the second electrode, as required by Claim 8.

Accordingly, it is respectfully submitted that independent Claim 8 and dependent Claim 9 patentably distinguish over Brooks.

Consequently, in light of the above discussion, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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